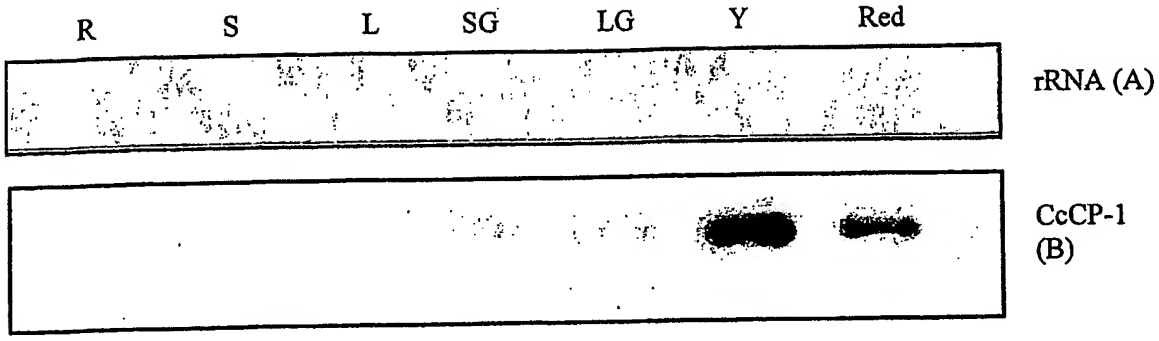

Figure 1: Northern blot analysis of the expression of the cysteine proteinase (CcCP1) gene in different tissues of *Coffea arabica*.

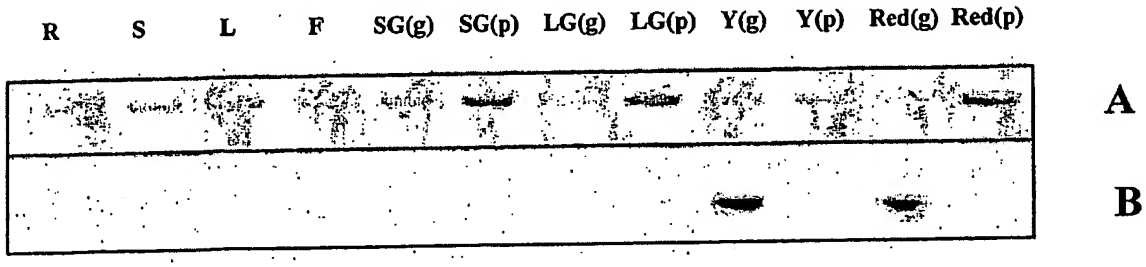

Figure 2: Northern blot analysis of the expression of the Cysteine proteinase CcCP-1 gene in different tissues of *Coffea arabica*.

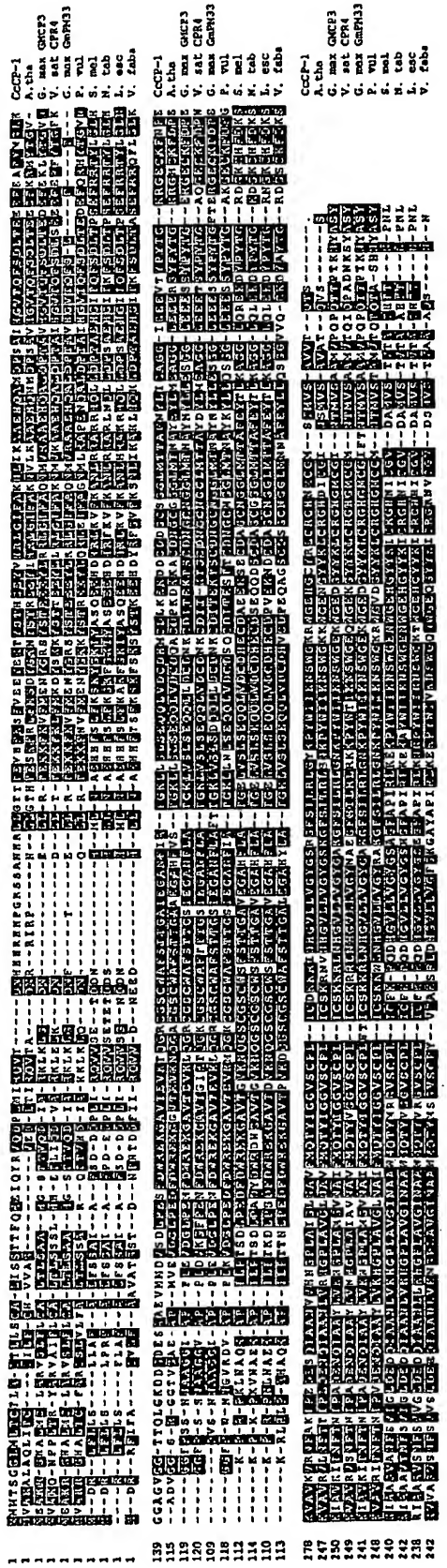

Figure 2A: Alignment of the full sequence of the protein encoded by CcCP-1 cDNA with other full-length cysteine proteinases available in the NCBI database.

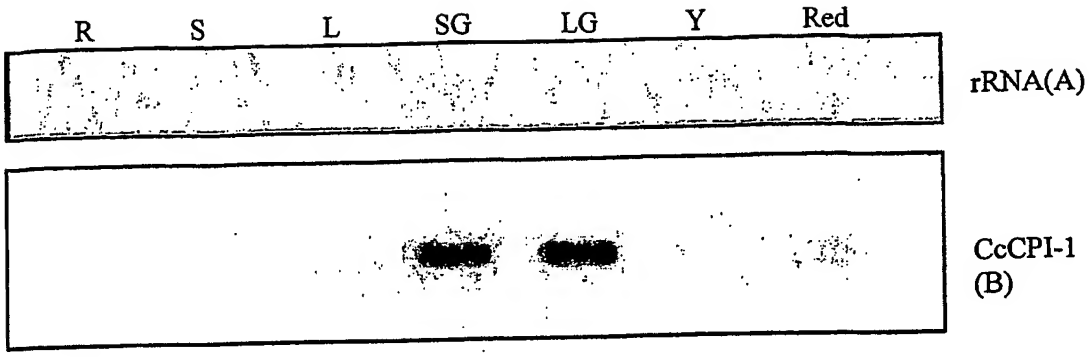

Figure 3: Northern blot analysis of the expression of the cysteine proteinase inhibitor (CcCPI-1) gene in different tissues of *Coffea arabica*.

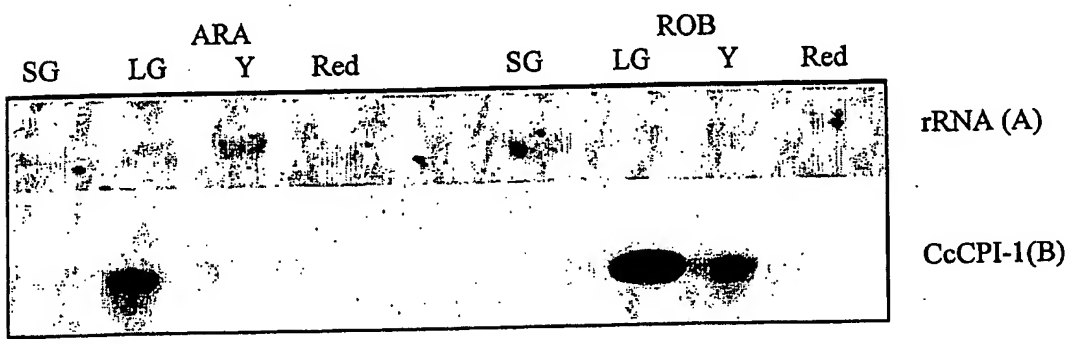

Figure 4: Northern blot analysis of the expression of the cysteine proteinase inhibitor gene (CcCPI-1) at different cherry development stages for *Coffea arabica* (ARA) and *Coffea canephora* (ROB).

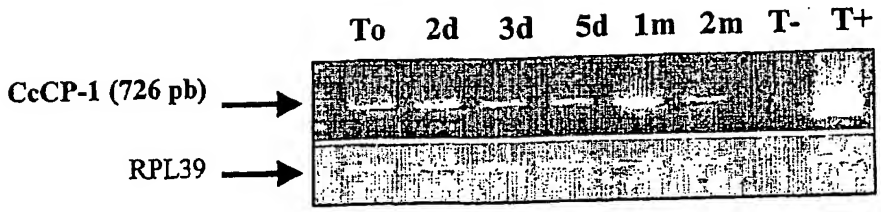

Figure 5. RT-PCR analysis of the expression of *CcCP-1* during *Coffea arabica* grain germination.

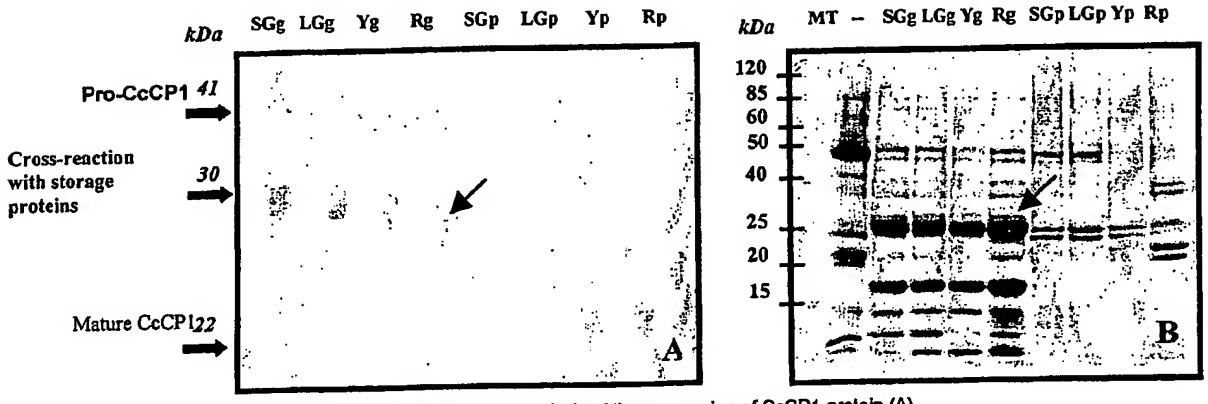

Figure 6: Western-blot analysis of the expression of CcCP1 protein (A).

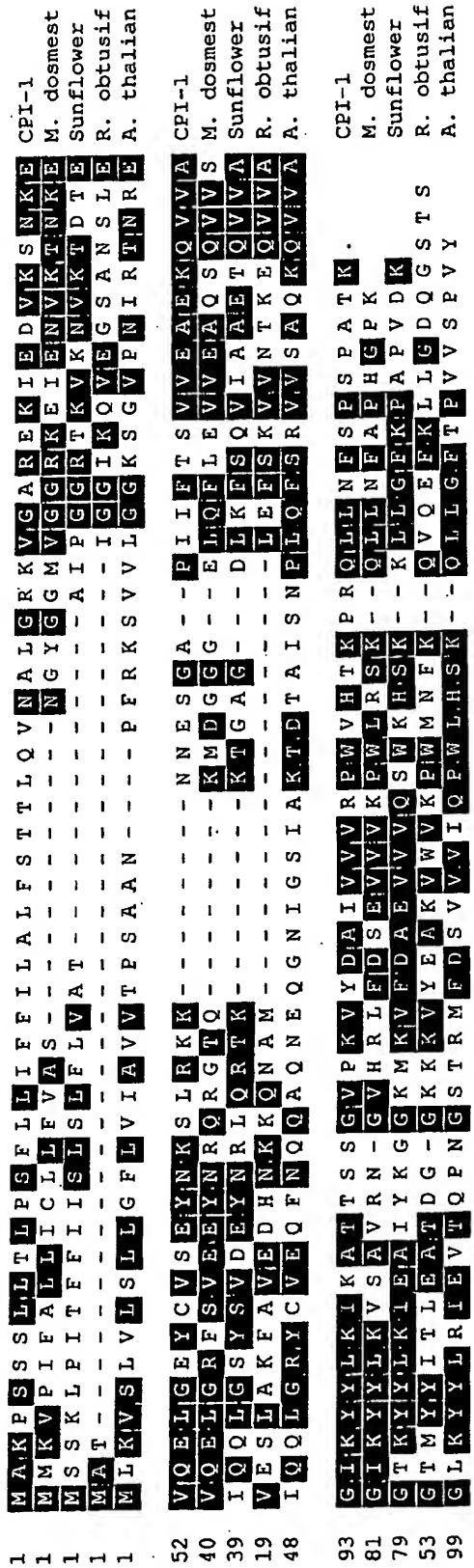

Figure 6A: Optimal alignment of the complete protein encoded by CcCPI-1 cDNA with other homologous full-length cysteine proteinases available in the NCBI.

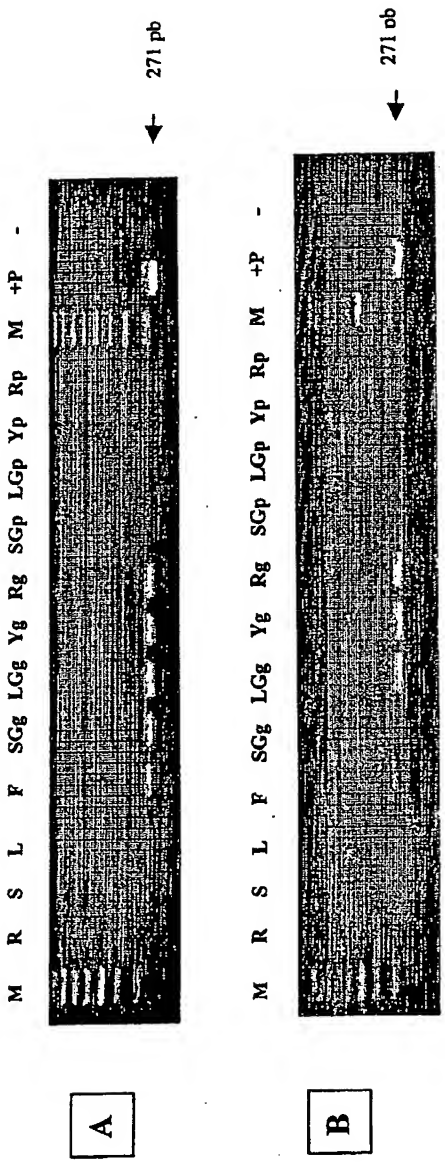

Figure 7: RT-PCR analysis of the expression of CcCPI-1 gene in different tissues of *Coffea arabica* CCCA2 (A) *and Coffea robusta* FRT-32 (B).

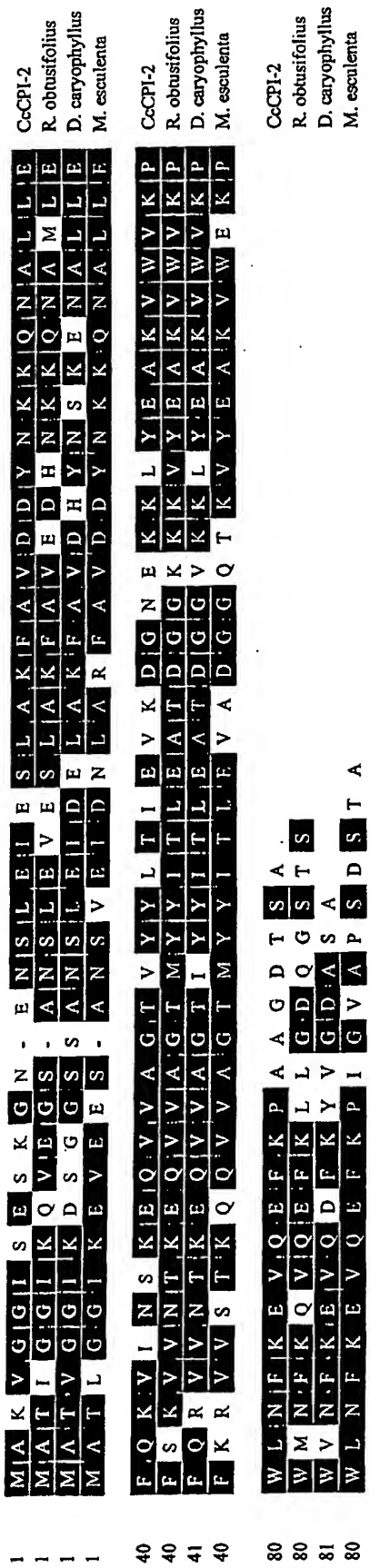

Figure 8: Optimal alignment of the complete protein encoded by CcCPI-2 cDNA with other homologous full-length cysteine proteinases available in the NCBI.

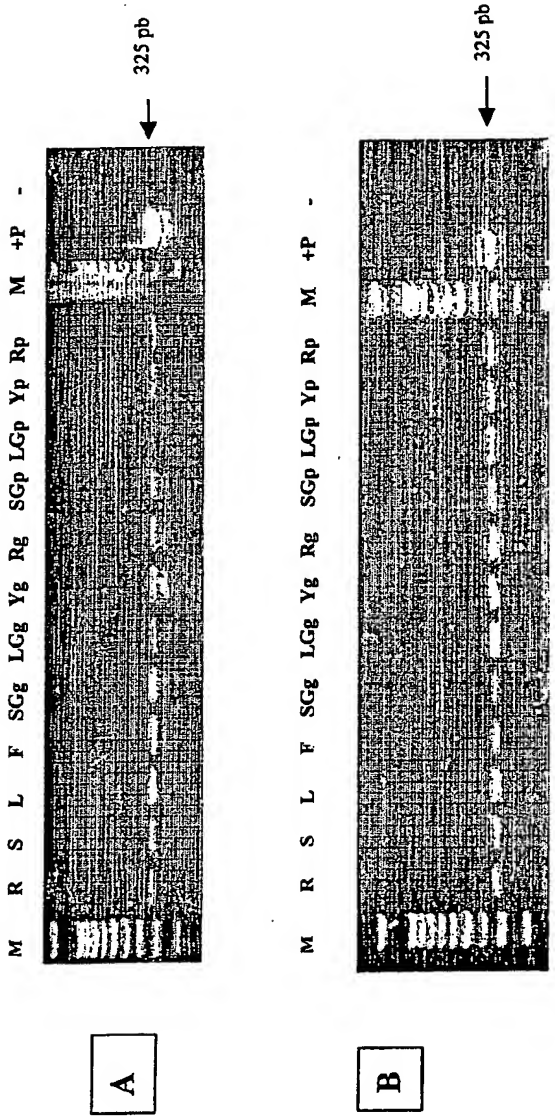

Figure 9: RT-PCR analysis of the expression of CcCPI-2 gene in different tissues of *Coffea arabica* CCCA2 (A) *and Coffea robusta* FRT-32 (B).

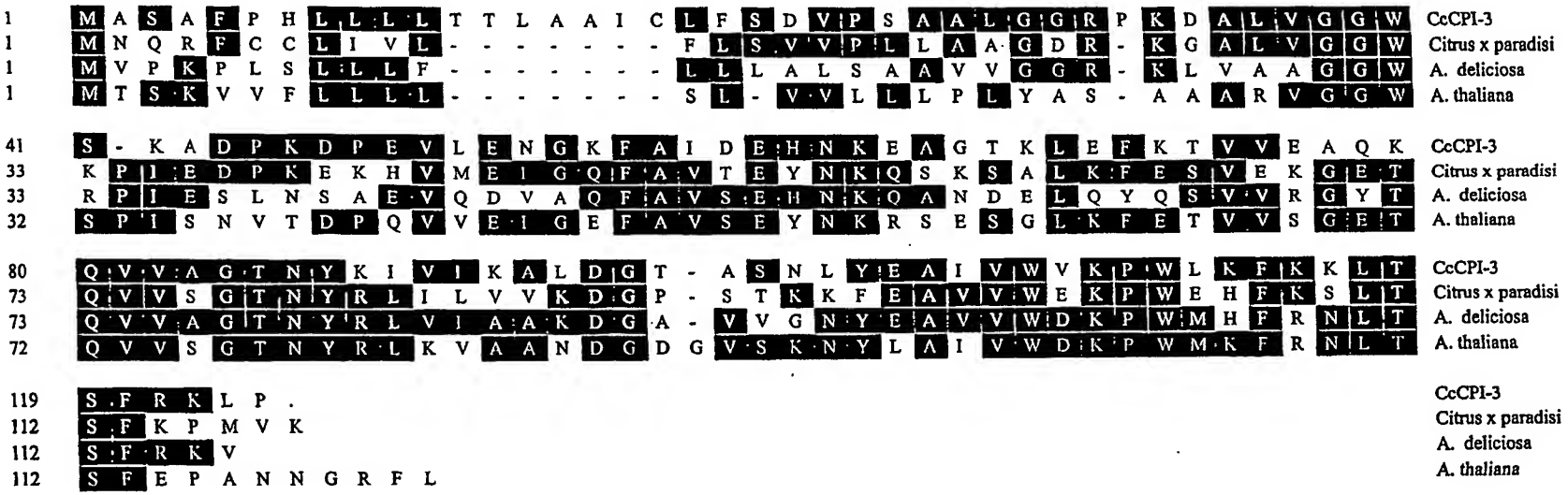

Figure 10: Optimal alignment of the complete protein encoded by CcCPI-3 cDNA with other homologous full-length cysteine proteinases available in the NCBI.

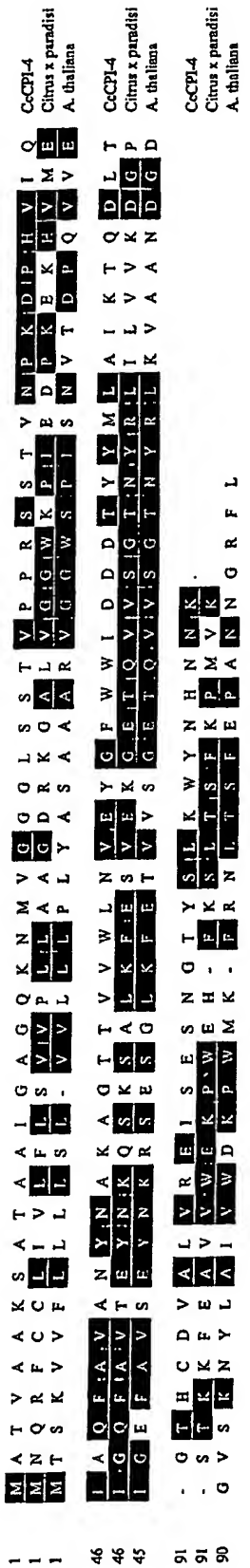

Figure 11: Optimal alignment of the complete protein encoded by CcCPI-4 cDNA with other homologous full-length cysteine proteinases available in the NCBI.

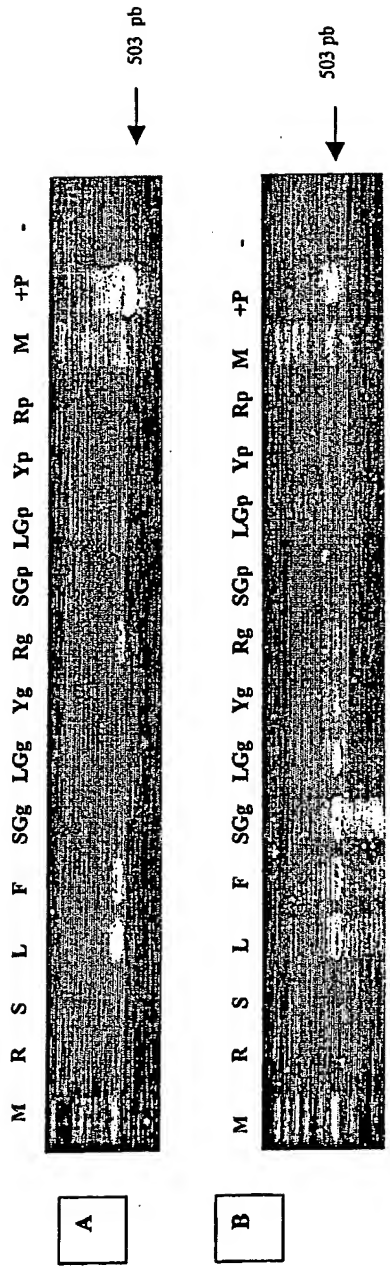

Figure 12: RT-PCR analysis of the expression of CcCPI-4 gene in different tissues of *Coffea arabica* CCCA2 (Panel A) and of *Coffea robusta FRT-32 (Panel B)*

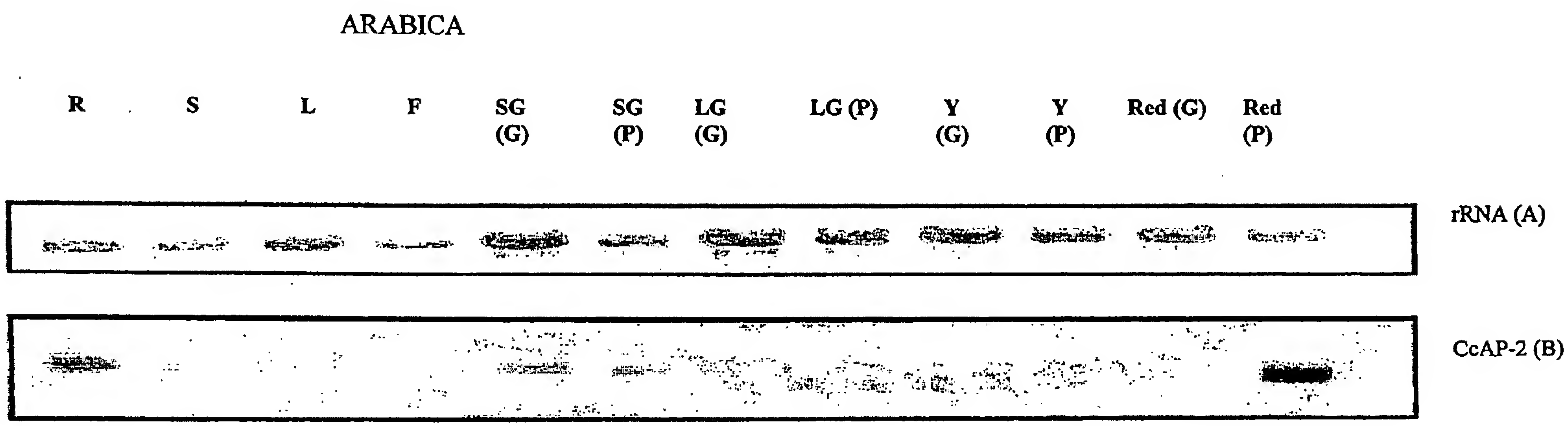

Figure 13: Northern blot analysis of the expression of the aspartic proteinase 2 (CcAP2) gene in different tissues of *Coffea arabica*.

```
   1 gcttacatcttaaatcctgatttttatagattcgcctttcgtgaagttcaatcttcgcagtcgctcactaacatttggt
  81 agacatacttcgatt ATG AAA ATG GGG AAG GCT TTC CTT TTT GCC GTT GTA TTG GCT GTG ATC
   1                M   K   M   G   K   A   F   L   F   A   V   V   L   A   V   I

 144 TTA GTG GCG GCT ATG AGC ATG GAG ATC ACA GAA AGA GAT TTG GCT TCT GAG GAA AGC TTG
  17  L   V   A   A   M   S   M   E   I   T   E   R   D   L   A   S   E   E   S   L

 204 TGG GAC TTG TAC GAA AGA TGG AGG AGC CAT CAT ACT GTT TCT CGA GAC CTT TCT GAG AAA
  37  W   D   L   Y   E   R   W   R   S   H   H   T   V   S   R   D   L   S   E   K

 264 CGA AAG CGC TTT AAT GTT TTC AAG GCA AAT GTC CAT CAC ATT CAC AAG GTG AAC CAG AAG
  57  R   K   R   F   N   V   F   K   A   N   V   H   H   I   H   K   V   N   Q   K

 324 GAC AAG CCT TAC AAG CTG AAA CTC AAC AGT TTC GCT GAT ATG ACC AAC CAC GAG TTC AGG
  77  D   K   P   Y   K   L   K   L   N   S   F   A   D   M   T   N   H   E   F   R

 384 GAA TTC TAC AGT TCT AAG GTG AAA CAT TAC CGG ATG CTC CAC GGC AGT CGT GCT AAT ACT
  97  E   F   Y   S   S   K   V   K   H   Y   R   M   L   H   G   S   R   A   N   T

 444 GGA TTT ATG CAT GGG AAG ACT GAA AGT TTG CCA GCC TCC GTT GAT TGG AGA AAG CAA GGA
 117  G   F   M   H   G   K   T   E   S   L   P   A   S   V   D   W   R   K   Q   G

 504 GCC GTG ACT GGC GTC AAG AAT CAA GGC AAA TGT GGT AGC TGT TGG GCA TTT TCA ACT GTG
 137  A   V   T   G   V   K   N   Q   G   K   C   G   S   C   W   A   F   S   T   V

 564 GTT GGA GTC GAG GGA ATC AAC AAA ATC AAA ACA GGC CAA TTA GTT TCT CTG TCC GAG CAA
 157  V   G   V   E   G   I   N   K   I   K   T   G   Q   L   V   S   L   S   E   Q

 624 GAA CTT GTT GAC TGT GAA ACG GAC AAT GAA GGA TGC AAC GGA GGA CTC ATG GAA AAT GCA
 177  E   L   V   D   C   E   T   D   N   E   G   C   N   G   G   L   M   E   N   A

 684 TAC GAG TTT ATT AAG AAA AGT GGG GGA ATA ACA ACT GAG AGG CTA TAT CCC TAC AAG GCA
 197  Y   E   F   I   K   K   S   G   G   I   T   T   E   R   L   Y   P   Y   K   A

 744 AGA GAT GGC AGC TGT GAT TCG TCA AAG ATG AAT GCC CCT GCT GTG ACT ATT GAT GGG CAT
 217  R   D   G   S   C   D   S   S   K   M   N   A   P   A   V   T   I   D   G   H

 804 GAA ATG GTA CCC GCA AAC GAT GAG AAT GCC TTG ATG AAA GCT GTT GCT AAC CAG CCT GTA
 237  E   M   V   P   A   N   D   E   N   A   L   M   K   A   V   A   N   Q   P   V

 864 TCA GTA GCT ATA GAT GCG TCT GGC TCT GAC ATG CAA TTT TAT TCA GAG GGT GTA TAC GCT
 257  S   V   A   I   D   A   S   G   S   D   M   Q   F   Y   S   E   G   V   Y   A

 924 GGA GAC TCG TGT GGC AAT GAG CTT GAT CAT GGC GTG GCG GTC GTC GGC TAC GGG ACT GCT
 277  G   D   S   C   G   N   E   L   D   H   G   V   A   V   V   G   Y   G   T   A

 984 CTT GAC GGT ACT AAA TAC TGG ATA GTG AAG AAC TCA TGG GGA ACA GGA TGG GGA GAA CAG
 297  L   D   G   T   K   Y   W   I   V   K   N   S   W   G   T   G   W   G   E   Q

1044 GGC TAT ATC AGG ATG CAA CGT GGT GTT GAT GCT GCT GAA GGC GGA GTT TGT GGG ATA GCA
 317  G   Y   I   R   M   Q   R   G   V   D   A   A   E   G   G   V   C   G   I   A

1104 ATG GAG GCC TCC TAT CCA CTT AAA TTG TCC TCC CAC AAT CCA AAA CCA TCC CCA CCT AAG
 337  M   E   A   S   Y   P   L   K   L   S   S   H   N   P   K   P   S   P   P   K

1164 GAC GAC CTC TAG attgatcctcttatatatatacatatatatatatttcagtagattcattgaattttagttac
 357  D   D   L   *
1240 agactacgcgcttcTGaagacttagatcatctctaggcatagatttatgtaatcctgctcctgtgatggtttgaataaac
1320 aataagtagtactaataaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
```

Figure 14: cDNA sequence and its deduced amino acid sequence of CcCP-4. Lowercase: 5' and 3' non-translated regions; Uppercase: Open reading frame; Bold character: amino acid sequence; *: stop codon

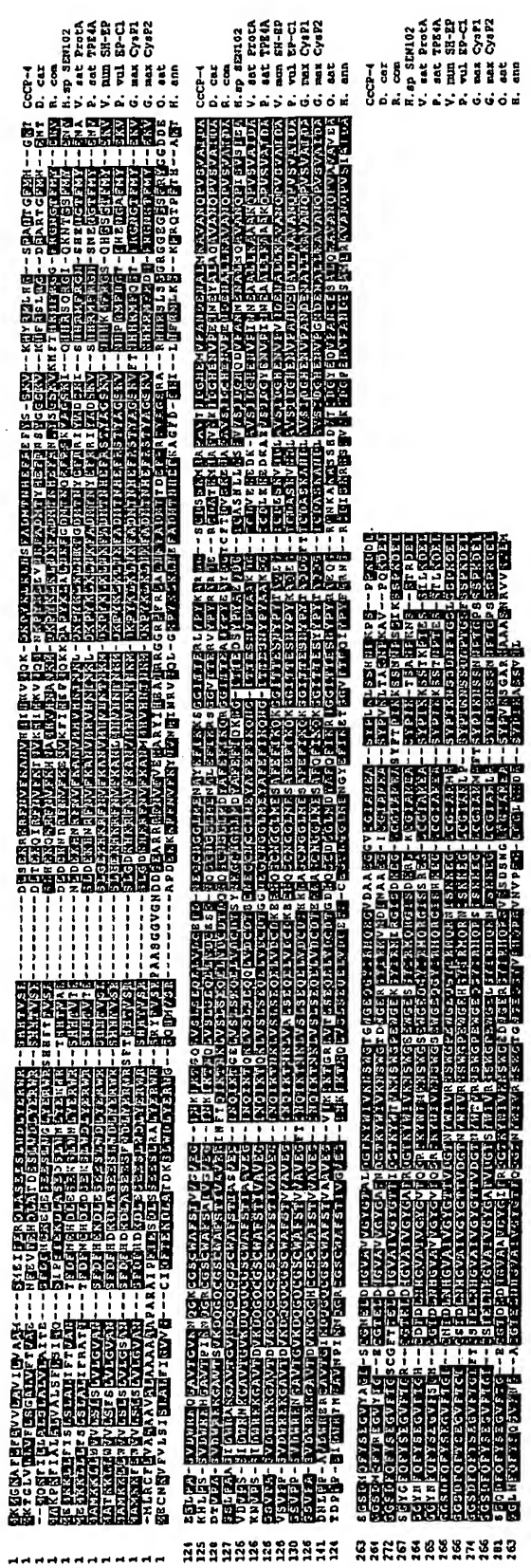

Figure 15: Alignment of the full sequence of the protein encoded by CcCP-4 cDNA with other full-length cysteine proteinases available in the NCBI database

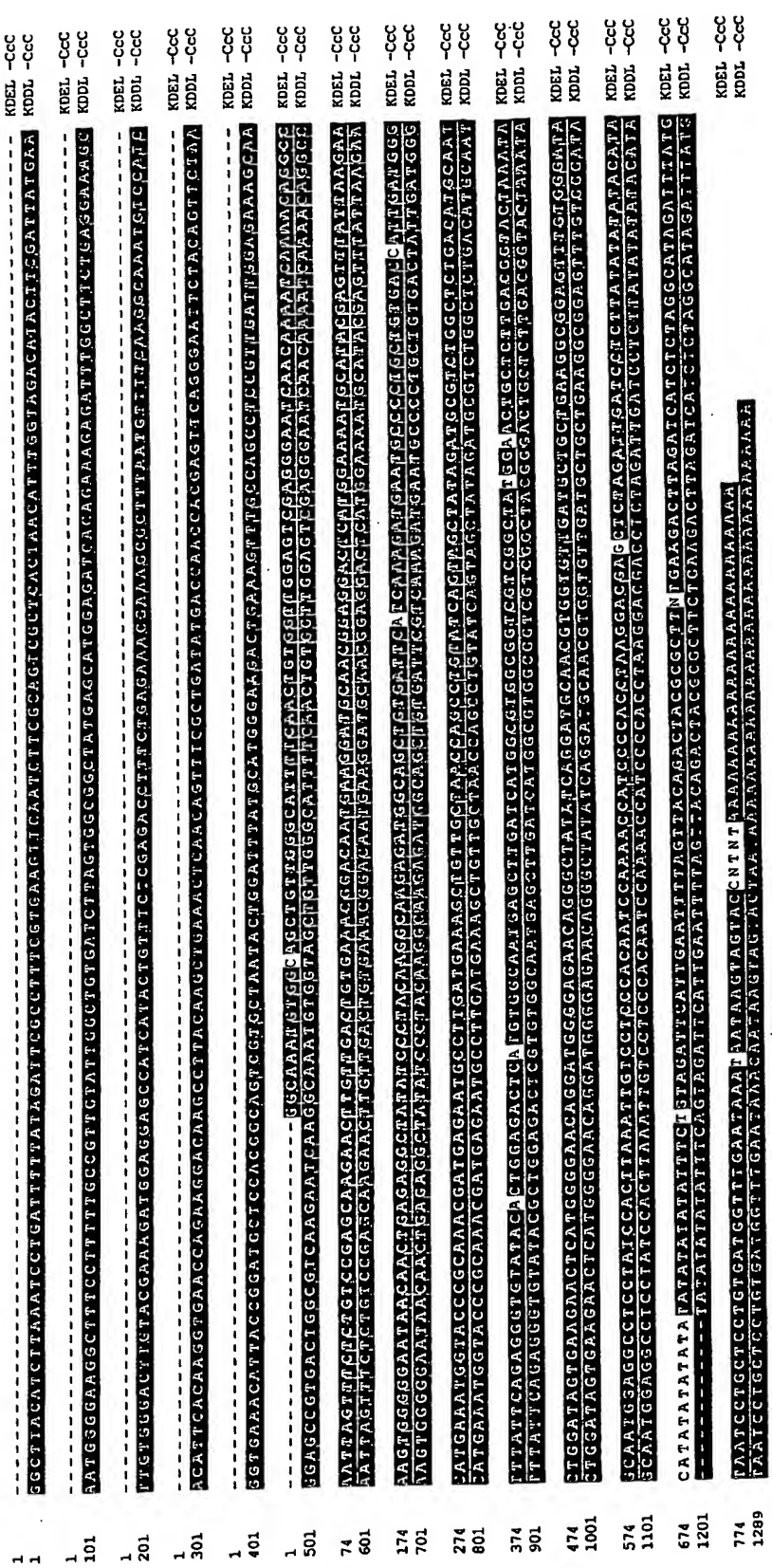

Figure 16. The full length cDNA sequence CcCP-4 KDDL and the partial cDNA sequence CcCP-4 (KDEL).

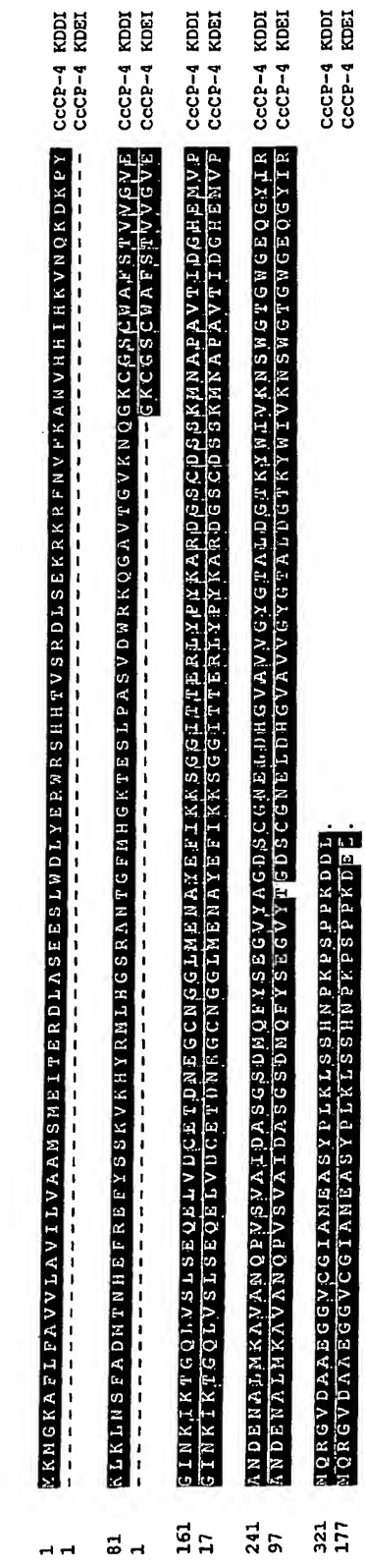

Figure 17. The complete open reading frame of CcCP-4 (KDDL) and the partial open reading frame of CcCP-4 (KDEL).

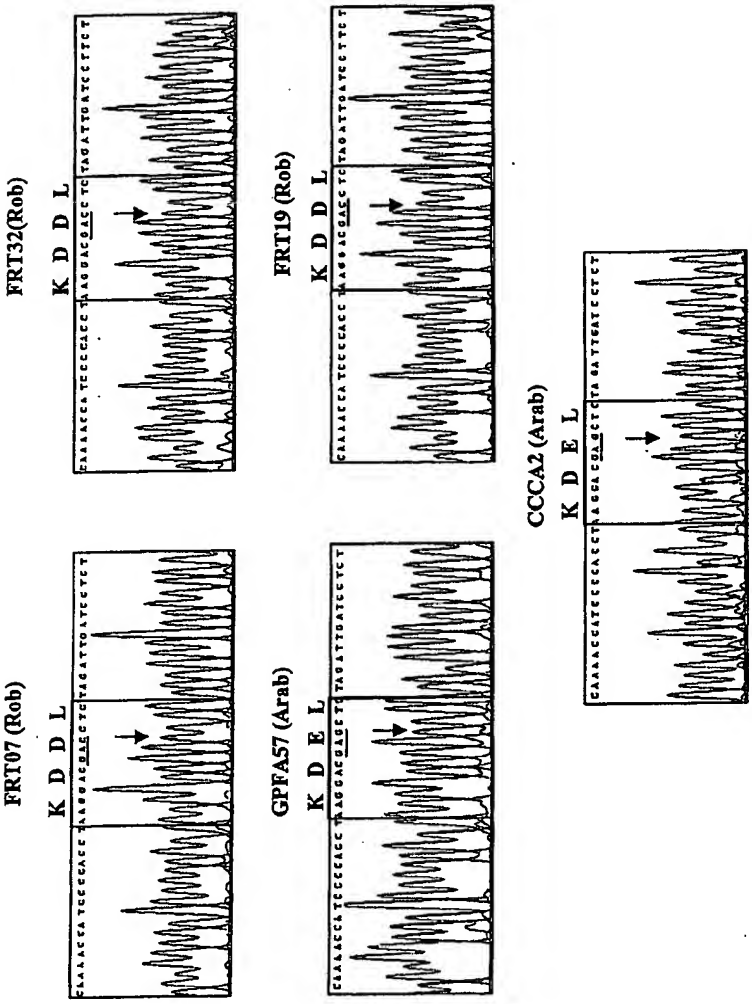

Figure 18. DNA sequence chromatograms for PCR amplified genomic DNA encoding the KDEL/KDDL region of the CcCP-4 gene.

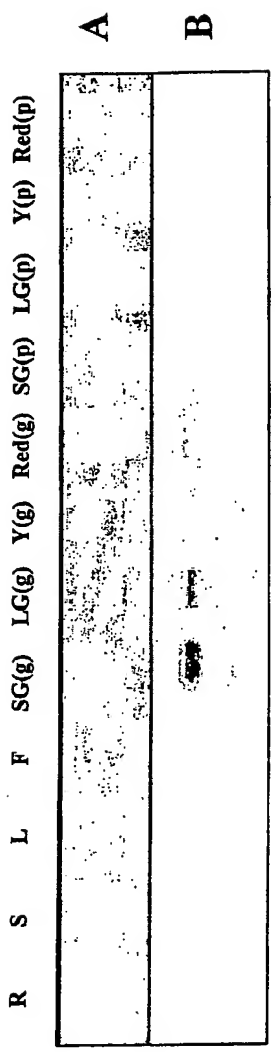

Figure 19. Northern blot analysis of the expression of the Cysteine proteinase CcCP-4 gene in different tissues of *Coffea arabica* .

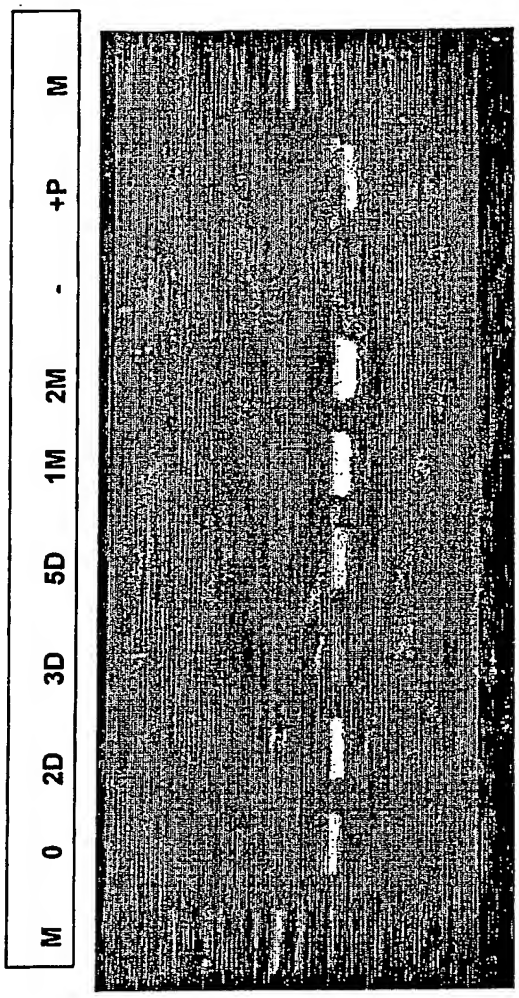

Figure 20. RT-PCR analysis of the expression of CcCP-4 in the whole grain during germination.

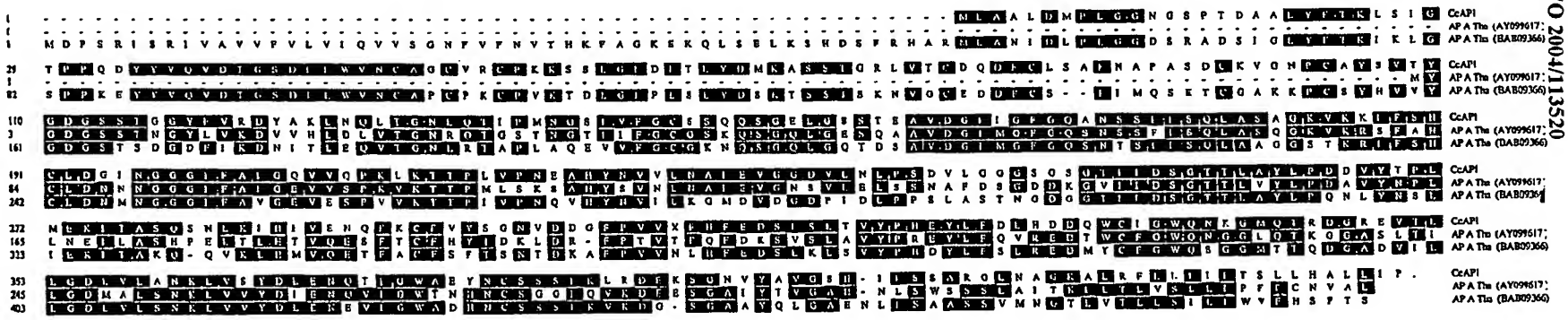

Figure 21: Optimal alignment of the complete protein encoded by CcAP-1 cDNA with other homologous full-length aspartic proteinase sequences available in the NCBI.

Figure 22: Optimal alignment of the complete protein encoded by CcAP-2 cDNA with other homologous full-length aspartic proteinase sequences available in the NCBI